PUBLIC NOTICE

File Number: NRS 14.210

Pursuant to Chapter 0400-40-07 of the Department's rules, the proposed activity described below has been submitted for approval under an Aquatic Resource Alteration Permit (this also includes §401 Water Quality Certifications). This notice is intended to inform interested parties of this permit application and to ask for comments and information necessary to determine possible impacts to water quality. No decision has been made whether to issue or deny this application.

APPLICANT: Thomas Worley
1237 Roan Creek Road
Mountain City, TN 37683
(423) 727- 7127

LOCATION: Worley Farm, Roan Creek Road, Mountain City, Johnson County, TN

PROJECT DESCRIPTION: The applicant proposes to stabilize a section of Town Creek on a private farm by the installation of a total of approximately 370 LF of rip-rap on the left descending bank of Town Creek and 8 rock V-weirs, within an approximately 1,000 LF segment of Town Creek. The rip-rap and V-weirs will be constructed and installed in accordance with NRCS design standards. The applicant also proposes to install cattle exclusion fencing along this segment of Town Creek. The proposed activities will not require mitigation.

DEGRADATION: In accordance with the Tennessee Antidegradation Statement (Rule 0400-40-03-.06), the division has determined that the proposed activities will not result in degradation to water quality.

WATERSHED / WATERBODY DESCRIPTION: Town Creek is part of the Watauga River Watershed and originates upstream of Mountain City in primarily forested and agricultural lands. Town Creek flows through increasingly urbanized areas into Mountain City and then through increasingly agricultural and forested lands into the Watauga Reservoir. The Tennessee portion of Watauga River Watershed is located in East Tennessee and includes parts of Carter, Johnson, Sullivan, Unicoi and Washington Counties. The Tennessee portion of the Watauga River Watershed drains approximately 614 square miles. For more information on this watershed, please visit http://www.state.tn.us/environment/water/watersheds/watauga-river.shtml

Stream Name / ID #: Town Creek (TN06010103034_0300)
Ecoregion: Limestone Valleys and Coves (66f)
Stream Dimension: Channel bottom width: approximately 30 - 40 feet
Chanel top width: approximately 30 – 40 feet
Water depth: approximately 0.5 – 2.0 feet
Bank height: approximately 2 - 8 feet

Substrate: Cobble and small gravel.

Designated Use	Use Support	Causes
Fish and aquatic life	Not Supporting	Escherichia coli
Recreation	Not Supporting	Nitrate/Nitrite and alteration in streamside or littoral vegetation
Irrigation	Fully Supporting	
Livestock watering & wildlife	Fully Supporting	

Assessment Date: 2014

PERMIT COORDINATOR: Mark Jordan

FACTORS CONSIDERED: In deciding whether to issue or deny a permit, the department will consider all comments of record and the requirements of applicable federal and state laws. In making this decision, a determination will be made regarding the lost value of the resource compared to the value of any proposed mitigation. The department shall consider practicable alternatives to the alteration. The department shall also consider loss of waters or habitat, diminishment in biological diversity, cumulative or secondary impacts to the water resource, and adverse impact to unique, high quality, or impaired waters.

COMMENTING: Persons wishing to comment on the proposal are invited to submit written comments to the department. Written comments must be received within **thirty days of the date that this notice is posted**. Comments will become part of the record and will be considered in the final decision. The applicant's name and permit number should be referenced. Send all written comments to the department's address listed below and to the attention of the permit coordinator.

PUBLIC HEARING: Interested persons may request in writing that the department hold a public hearing on this application. The request must be filed within the comment period, indicate the interest of the person requesting it, the reasons that the hearing is warranted, and the water quality issues being raised. When there is sufficient public interest in water quality issues, the department will hold a public hearing. Send all public hearing request to the department's address listed below and to the attention of the permit coordinator.

APPEAL: A permit appeal may be filed, pursuant to T.C.A. §§ 69-3-105(i) and Rule 0400-40-05, by the permit applicant or by any aggrieved person who participated in the public comment period announced by this notice. This petition must be filed within THIRTY (30) DAYS after public notice of the issuance of the permit. The petition must specify what provisions are being

appealed and the basis for the appeal. It should be addressed to the technical secretary of the Tennessee Board of Water Quality, Oil and Gas at the following address: Tisha Calabrese Benton, Director, Division of Water Resources, William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Ave, 11th floor, Nashville, TN 37243. Any hearing would be in accordance with T.C.A. §§69-3-110 and 4-5-301 et seq.

FILE REVIEW: The permit application, supporting documentation including detailed plans and maps, and related comments are available at the department's address (listed below) for review and/or copying.

Tennessee Department of Environment & Conservation
Division of Water Resources, Natural Resources Unit
ATTN: Mark Jordan
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243

TOM WHORLEY FARM
STREAM BANK AND CHANNEL STABILZATION
JOHNSON COUNTY, TENNESSEE

Mountain City, TN Quadrangle (214–NE)
USGS Topographic Maps
Original Map Scale 1" – 2000'
(Latitude N 36° 30' 22.95" Longitude W 82° 40' 49.51")

Prepared By:
U.S. Department of Agriculture
Natural Resources Conservation Service
Knoxville Area Office
Knoxville, TN

In Cooperation With:
Johnson County Soil Conservation District

INDEX TO DRAWINGS

Area 4 Engineer Staff shall be present for location and staking of structures in the field prior to construction.

Tennessee 811
Know what's below. Call before you dig.

IMPORTANT:
Utility Owners Must Be Notified Of The Date And Time Construction Is Scheduled To Approach The Utilities (Pipelines, Telephone Lines, Electric Lines, etc.), Construction Shall Not Commence Until All Utility Companies Have Been Notified And Have Their Utilities Located On The Ground.

CONSTRUCTION DRAWINGS APPROVED

joseph.zimmerman@usda.gov

AGRICULTURAL ENGINEER, NRCS — DATE
ELIZABETHTON, TENNESSEE

A4E – 14 – 132

Designed Norma Zimmerman 03/14
Drawn JZ Zimmerman 03/14
Checked JA Werner 03/14
Approved

Tom Whorley Farm
Stream Bank and Channel Stabilization
Johnson County, Tennessee
Cover Sheet

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

FILE NAME
Whorley.dwg
DRAWING NUMBER
A4E-14-132
Sheet 1 of 5

Items of Work:

Item 1 – This item is a sections of Rock Riprap along the east bank of the Town Creek River on the Tom Whorley Property downstream of the low water crossing at the location of the footbridge. The riprap shall extend approximately two hundred and seventy-eight (278') hundred feet long the creek. The rock riprap shall have an average height of five (5') feet to an elevation of 2264.05' and shall be placed on a 1:1 (H:V) slope and keyed into the bed a minimum of three (3') feet. Rock used shall have a d50 size of thirty-six (36") inches and all rock shall be underlain with non-woven needle punched geotextile material. Refer to Sheet 3 of 5 for Riprap Details.

Item 2 – This item is a sections of Rock Riprap along the east bank of the Town Creek River on the Tom Whorley Property upstream of the low water crossing. The riprap shall extend approximately eighty-nine (89') hundred feet long the creek. The rock riprap shall have an average height of five (5') feet to an elevation of 2265.5' and shall be placed on a 1:1 (H:V) slope and keyed into the bed a minimum of three (3') feet. Rock used shall have a d50 size of thirty-six (36") inches and all rock shall be underlain with non-woven needle punched geotextile material. Refer to Sheet 4 of 5 for Riprap Details.

Item 3 – This item is the placement of five (5) rock V-weirs, 3a – 3e, as indicated on the drawing. Weir 1a – 1c will be located along the section where existing rock riprap is placed on the west bank. These weirs will be placed to the existing rock riprap but new key will be added that would require excavation of existing Rock. The remaining two (2) weirs shall be place with bank anchoring as shown. The elevation of the point rock for Weir 3e shall be set at the elevation of the low water crossing. Refer to Sheet 5 of 5 for Typical Rock V-Weir Installation.

Item 4 – This item is the placement of three (3) V-Weirs, 4a – 4c, as indicated on the drawing. These weirs shall be shallow and placed across the full width of the over-widened section of channel. The downstream weir, 4c, will have be offset with a short leg along the east bank. Refer to Sheet 5 of 5 for Typical Rock V-Weir Installation.

All material excavated and not used as backfill to the armoring shall be removed from the influence of the river and shall not be piled or bermed within the flood plain.

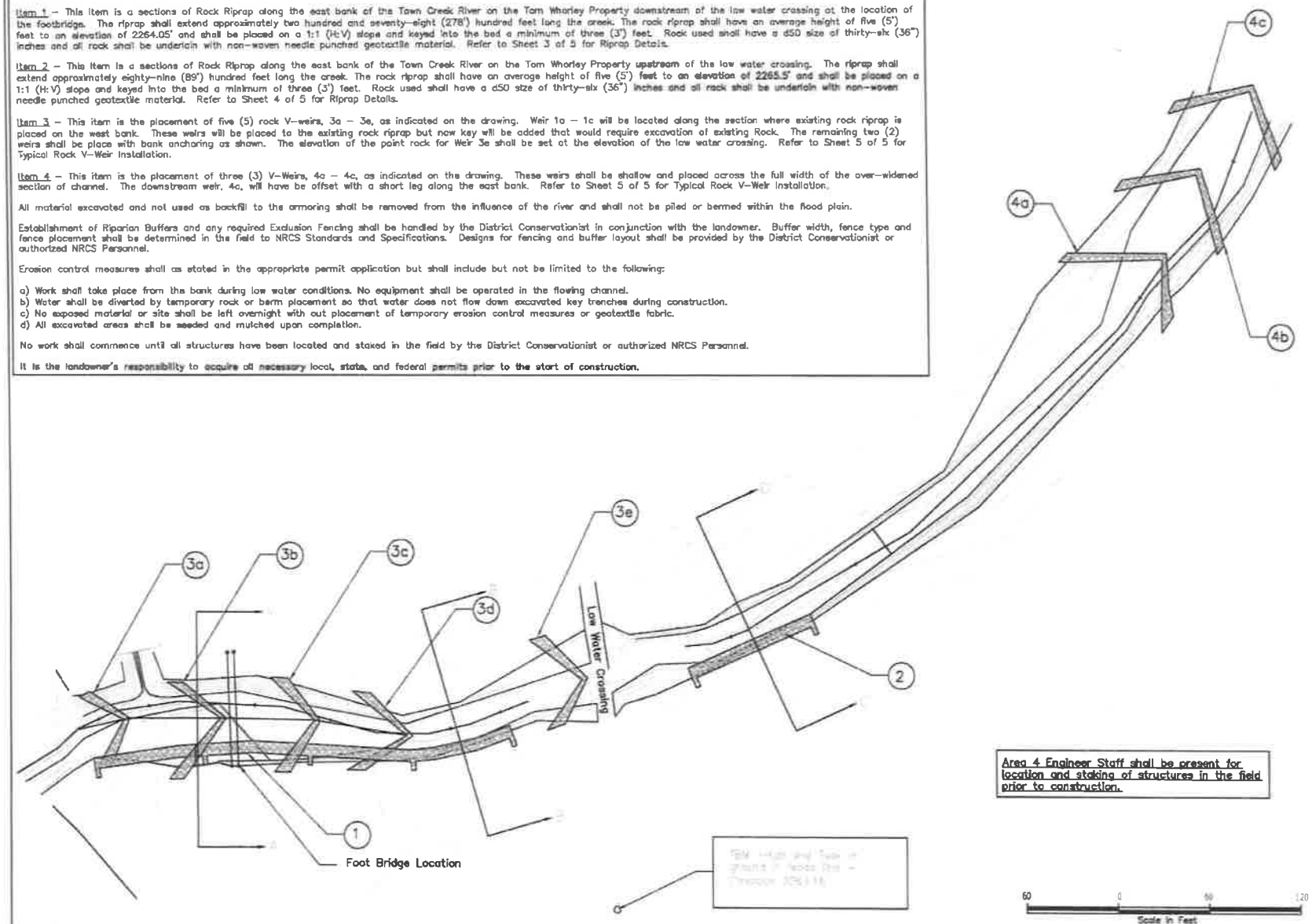
Establishment of Riparian Buffers and any required Exclusion Fencing shall be handled by the District Conservationist in conjunction with the landowner. Buffer width, fence type and fence placement shall be determined in the field to NRCS Standards and Specifications. Designs for fencing and buffer layout shall be provided by the District Conservationist or authorized NRCS Personnel.

Erosion control measures shall as stated in the appropriate permit application but shall include but not be limited to the following:

a) Work shall take place from the bank during low water conditions. No equipment shall be operated in the flowing channel.
b) Water shall be diverted by temporary rock or berm placement so that water does not flow down excavated key trenches during construction.
c) No exposed material or site shall be left overnight with out placement of temporary erosion control measures or geotextile fabric.
d) All excavated areas shall be seeded and mulched upon completion.

No work shall commence until all structures have been located and staked in the field by the District Conservationist or authorized NRCS Personnel.

It is the landowner's responsibility to acquire all necessary local, state, and federal permits prior to the start of construction.



Area 4 Engineer Staff shall be present for location and staking of structures in the field prior to construction.

60 0 60 120
Scale in Feet

Date
Designed Marnie Zimmerman 03/14
Drawn JC Zimmerman 03/14
Checked JA Morrow 03/14
Approved

Tom Whorley Farm
Stream Bank and Channel Stabilization
Johnson County, Tennessee
Plan View of Site

NRCS
Natural Resources Conservation Service
United States Department of Agriculture

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Whorley.dwg
DRAWING NUMBER
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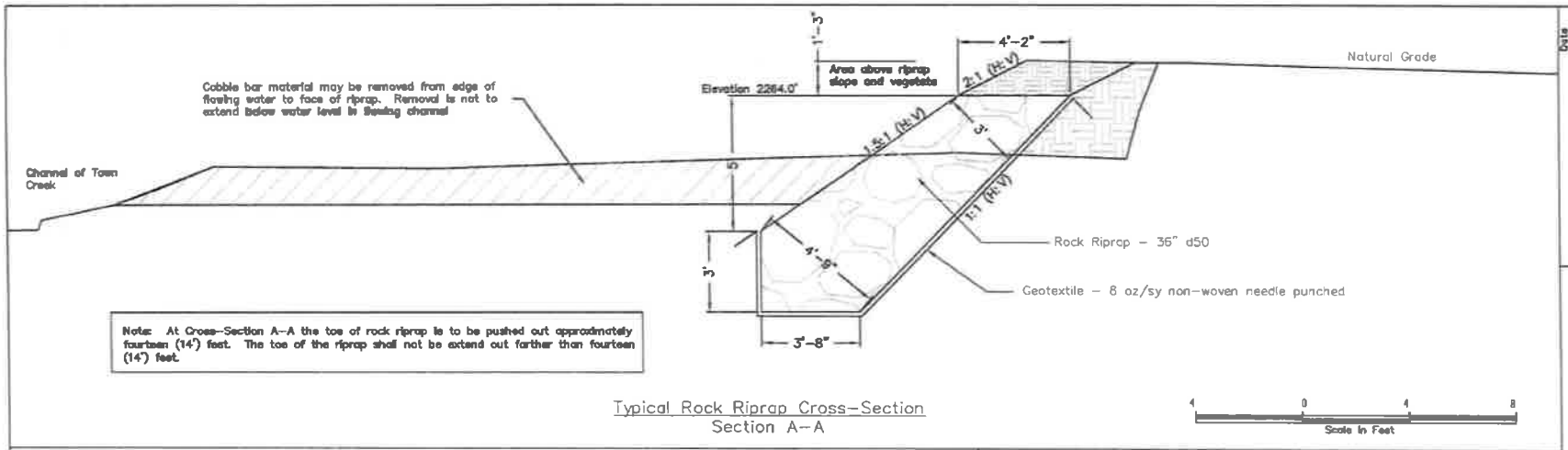


Note: At Cross-Section A-A the toe of rock riprap is to be pushed out approximately fourteen (14') feet. The toe of the riprap shall not be extend out farther than fourteen (14') feet.

Typical Rock Riprap Cross-Section
Section A-A

4 0 4 8
Scale in Feet

Rock Riprap:

1) Rock size shall be a d50 of thirty-six (36") inches - This means that fifty (50%) percent of the rock used shall be thirty-six (36") inches or larger. No rock smaller than twenty-four (24") inches shall be used and no rock larger than forty-eight (48") inches are required

2) Rock shall be placed on prepared surface with 1:1 (H:V) slope. All roots, rocks or other material that may damage geotextile shall be removed from the prepared slope. The front face of the rock shall be placed on a 1.5:1 (H:V) face

3) Geotextile used shall be eight (8 oz/sy) ounce per square yard non-woven needle punched geotextile. Geotextile shall overlap a minimum of twenty-four (24") inches with overlap not to exceed thirty-six (36") inches.

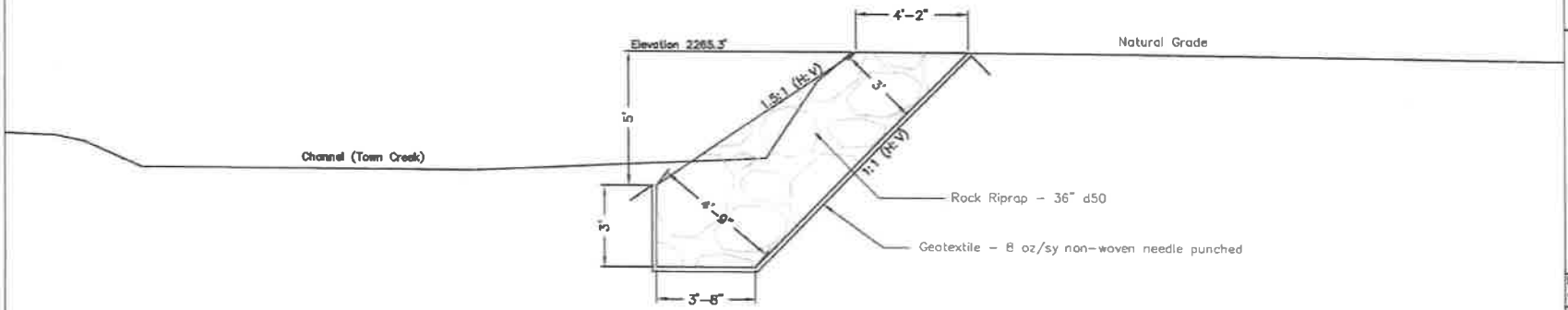
4) Riprap shall be keyed into the channel bed a minimum of three (3') feet deep or until non-excavatable bedrock is encountered. This may mean that the base of the riprap armoring is buried several feet below existing grade in some places.

5) Excavated material in excess of material required in designated backfill areas behind rock riprap armoring SHALL be removed from site and disposed of out of the influence of river per permit requirements.

6) Rock Riprap tie backs shall be placed as indicated on the drawing. Tie backs shall be a minimum of three (3') feet wide and extend back a minimum of six (6') feet from the back edge of the rock Riprap. There shall be a tie back on each end of the rock riprap structures and a tie back placed approximately every seventy (70' feet along Riprap in Item 1 (Page 2 of 5).

Material Quantities - Item 1:

Length:	Two Hundred and Seventy-eight (278') feet
Height:	Five (5') feet average
36" d50 Rock Riprap:	Seven Hundred and Fifty-one (751) Tons
8 oz/sy Geotextile:	Seven Hundred and Twenty-eight (728) Square Yards
Excavation:	Four Hundred and Forty-two (442) Cubic Yards



Typical Rock Riprap Cross-Section
Section B-B

4 0 4 8
Scale in Feet

Date
Designed Monroe/Zimmerman 03/14
Drawn JD Zimmerman 03/14
Checked JM Monroe 03/14
Approved

Tom Whorley Farm
Stream Bank and Channel Stabilization
Johnson County, Tennessee
Typical Rock Riprap - Section A-A & B-B

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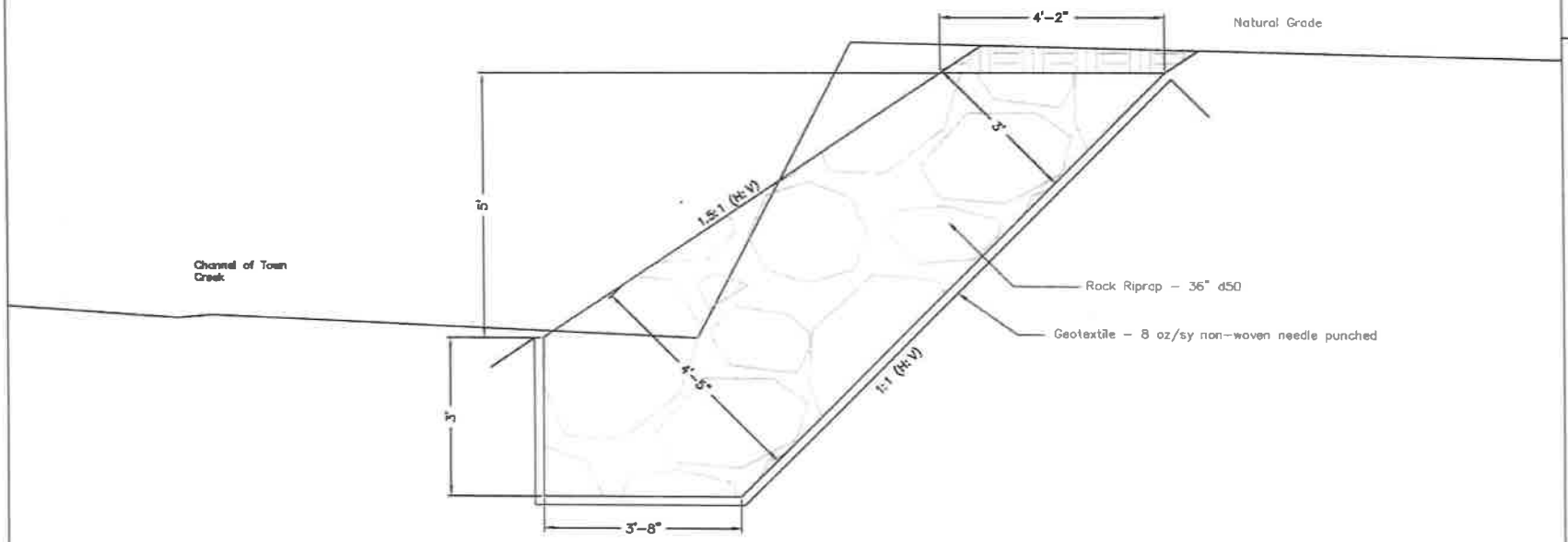
A4E-14-134



Typical Rock Riprap Cross-Section
Section C-C

Rock Riprap:

1) Rock size shall be a d50 of thirty-six (36") inches – This means that fifty (50%) percent of the rock used shall be thirty-six (36") inches or larger. No rock smaller than twenty-four (24") inches shall be used and no rock larger than forty-eight (48") inches are required

2) Rock shall be placed on prepared surface with 1:1 (H:V) slope. All roots, rocks or other material that may damage geotextile shall be removed from the prepared slope. The front face of the rock shall be placed on a 1.5:1 (H:V) face

3) Geotextile used shall be eight (8 oz/sy) ounce per square yard non-woven needle punched geotextile. Geotextile shall overlap a minimum of twenty-four (24") inches with overlap not to exceed thirty-six (36") inches.

4) Riprap shall be keyed into the channel bed a minimum of three (3') feet deep or until non-excavatable bedrock is encountered. This may mean that the base of the riprap armoring is buried several feet below existing grade in some places.

5) Excavated material in excess of material required in designated backfill areas behind rock riprap armoring SHALL be removed from site and disposed of out of the influence of river per permit requirements.

6) Rock Riprap tie backs shall be placed as indicated on the drawing. Tie backs shall be a minimum of three (3') feet wide and extend back a minimum of six (6') feet from the back edge of the rock Riprap. There shall be a tie back on each end of the rock riprap structures and a tie back placed approximately every seventy (70' feet along Riprap in Item 1 (Page 2 of 5).

Material Quantities – Item 2:

Length:	Eighty-nine (89') feet
Height:	Five (5') feet average
36" d50 Rock Riprap:	Two Hundred and Forty-one (241) Tons
8 oz/sy Geotextile:	Two Hundred and Three (203) Square Yards
Excavation:	One Hundred and Forty-two (142) Cubic Yards

4 0 4 8
Scale in Feet

Date
Designed Morrow/Zimmerman 03/14
Drawn JG Zimmerman 03/14
Checked JA Morrow 03/14
Approved

Tom Wharley Farm
Stream Bank and Channel Stabilization
Johnson County, Tennessee
Typical Rock Riprap – Section C-C

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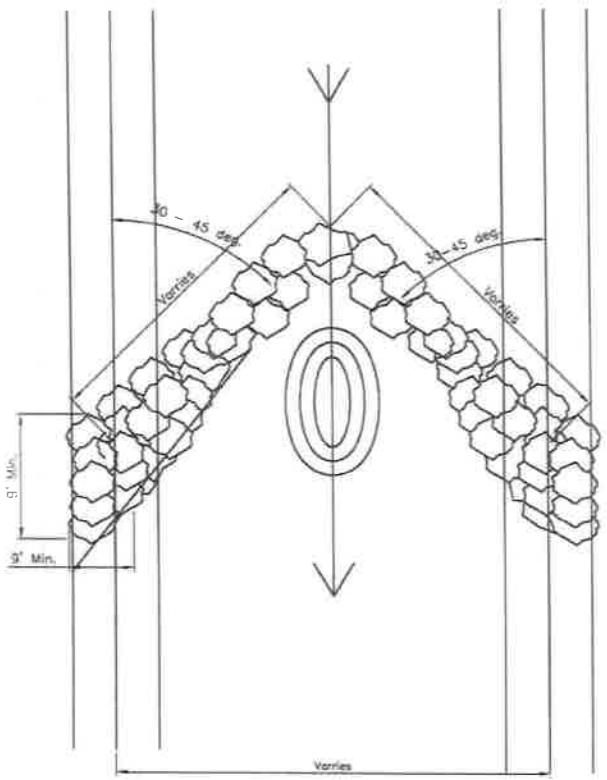
TYPICAL ROCK V–WEIR DETAIL



PLAN VIEW

Notes:

1) V–Weir shall be constructed of stones with a d50 size of thirty–six (36"). This means that at least fifty (50%) percent of stones used shall have a minimum dimension of at least thirty–six (36") inches. No stones with dimension less than twenty–four (24") inches inches shall be used or no stones greater than forty–eight (48") inches are required.

2) The ends of the V–Weir extending into the bank (not within the flow of the stream) shall be underlain with non–woven geotextile cloth. The geotextile shall have a minimum fabric weight of 8oz per square yard.

3) An excavated scour pool shall be located as indicated on drawing. the pool depth may be slightly lower than the depth at which the weir stones are buried. The edge of the scour pool shall be a minimum of three feet (3') from the edge of exposed weir stones. The pool shall be elongated as indicated on the drawing to direct water flow toward the exiting point.

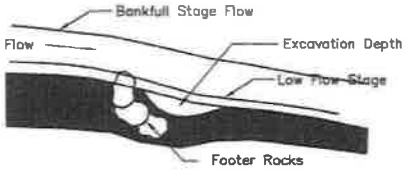
4) The stones at the apex of the V–Weir shall be placed first. The stones at the apex of the V–Weir shall be placed approximately level or slightly above the stream bottom. The V–Weir stones shall rise back up at an angle of between 15% and 20% and enter the banks at approximately two thirds (2/3) full bank flow height (final placed elevation to be determined in the field). The remainder of the V–Weir stones shall be buried into the bank for anchoring.

5) As indicated on the drawing the arms of the V–Weir shall be at approximately a 30° to 45° angle to the bank. The apex of the weir (the V) shall be located and staked by the District Conservationist or authorized NRCS Personnel Prior to the start of construction.

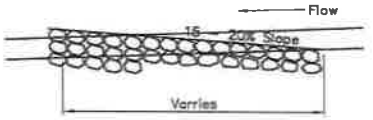
6) Placement and elevation of weir stones shall encourage low level flow across the center one third (1/3) section of the V–Weir.

7) The weirs may be offset so that the apex is closer to the one bank than the other bank. This is to encourage or discourage flow along a designated bank. The longer side length would allow the flow to better transition around a curve or bend. Offset weirs will be placed at the direction of the government representative.

8) Final location and placement of rock V–Weirs will be staked by the District Conservationist or NRCS Area 4 Engineering Staff in the field prior to the start of construction.



SECTION VIEW
PROPER PLACEMENT OF ROCK FOOTERS
– NOT TO SCALE –



PROFILE VIEW
– NOT TO SCALE –

Typical Rock V–Weirs – Item 3 (Material and Placement)					
Rock W–Weir	Weir Width (ft)	Height Weir enters bank (ft)	Rock (tons) d50 36"	Geotextile (sy) 8 oz/sy	Excavation (cy)
Item 3a	38.0'	2,262.0'	118 (89 cy)	100	89
Item 3b	52.0'	2,262.0'	158 (93 cy)	100	93
Item 3c	45.0'	2,262.0'	138 (81 cy)	100	81
Item 3d	34.0'	2,263.0'	107 (63 cy)	100	63
Item 3e	44.0'	2,263.0'	135 (79 cy)	100	79

Typical RockV–Weirs – Item 4 (Material and Placement)					
Rock W–Weir	Weir Width (ft)	Height Weir enters bank (ft)	Rock (tons) d50 36"	Geotextile (sy) 8 oz/sy	Excavation (cy)
Item 4a	60.0'	2,267.0'	166 (98 cy)	100	98
Item 4b	60.0'	2,2267.0'	166 (98 cy)	100	98
Item 4c	60.0'	2,267.0'	166 (98 cy)	100	98

Date 03/14
Designed Marcus Zimmerman 03/14
Drawn JG Zimmerman 03/14
Checked MA Marcus 03/14
Approved

Tom Whorley Farm
Stream Bank and Channel Stabilization
Johnsón County, Tennessee
Typical Rock V–Weir

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FILE NAME
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